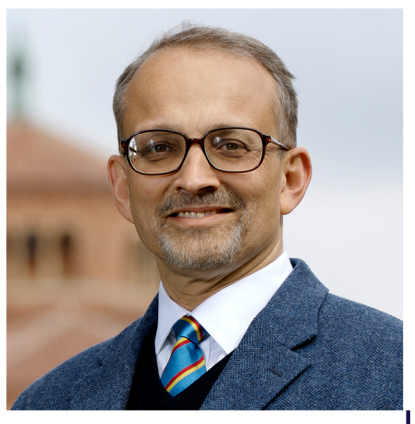
LUMS | Department of Electrical Engineering

11th TEACHING THE TEACHERS WORKSHOP

BASIC CIRCUIT THEORY

AUGUST 19-23, 2019

ABOUT THE INSTRUCTOR



Professor Asad Abidi received his BSc degree in Electrical Engineering from Imperial College, London in 1976, and the PhD from the University of California, Berkeley in 1982. He worked at Bell Laboratories, Murray Hill until 1985, and then joined the faculty of the University of California, Los Angeles where he is the Distinguished Chancellor's Professor of Electrical Engineering. With his students, he has developed many of the radio circuits and architectures that enable today's mobile devices. Among other awards, Professor Abidi has received the 2008 IEEE Donald O. Pederson Award in Solid-State Circuits and the Best Paper Award from the IEEE Journal of Solid-State Circuits in 2012. The University of California, Berkeley's Department of EECS recognised him as a Distinguished Alumnus in 2015. He was elected Fellow of IEEE in 1996, Member of the US National Academy of Engineering, and Fellow of TWAS, the world academy of sciences.

Professor Abidi holds the Abdus Salam Chair at the Syed Babar Ali School of Science & Engineering (SBASSE), LUMS, Lahore.

ABOUT THE WORKSHOP

Circuit Theory may rightfully claim to be the root of most electrical engineering. It underpins power engineering, signal processing, feedback controls, and electronic circuits. While classically it has spanned linear, time-invariant circuits very thoroughly, a modern presentation must introduce key ideas of nonlinearity, and even of periodic time variance, at the start of an undergraduate EE degree course.

This five-day workshop is designed for teachers of circuit theory courses with some experience in teaching the subject. Starting from first principles, it will cover selected important topics that, experience shows, are seldom taught effectively. These weaknesses are difficult to remedy as students enter practice or go on to higher studies. The lectures will be illustrated with examples drawn from everyday applications.

The workshop will focus on:

- Maxwell's equations
- Resistors, capacitors, inductors, and their construction
- Constitutive relations: nonlinear and linear
- Network graphs
- Independent sources; the dependent abstraction
- Kirchhoff's laws
- Node and mesh analysis
- Equations of state
- First- and second-order circuits
- Phasor analysis of sinusoidal waveforms
- Impedance
- AC power
- Maximum power transfer
- Laplace transforms, theorems, analysis
- Circuit theorems: Substitution and Thevenin
- Ports and network functions
- Poles and zeros
- Two port parameters
- Rules for plotting frequency response
- Nyquist criterion for feedback stability
- Polyphase circuits and properties
- Analysis of three-phase circuits

VENUE

Syed Babar Ali School of Science and Engineering, LUMS, Lahore

DEADLINES

REGISTRATION	**AUGUST 07, 2019**
PAYMENT	**AUGUST 09, 2019**

WORKSHOP PACKAGE

- Workshop instructions for 5 days
- Refreshments and lunch
- Stationery and writing pads
- Certificates

Note: Accommodation is not included

REGISTRATION

Industrial Professionals: PKR 5,000
Academic Members: PKR 3,000

Note: Limited seats available. Only shortlisted participants will attend and pay the registration fee.

TO REGISTER

1. Complete the registration form at **https://tinyurl.com/LUMS-Workshop**
2. Email your CV to
   Mr. Affan Anwar
   Assistant Manager, EE Department
   Email: affan.anwar@lums.edu.pk
   Phone: +92- 42 -3560-8000, Ext: 3527
3. After notification of selection, pay through a **bank draft** in the name of "Lahore University of Management Sciences"

For more information, please contact

Dr. Wasif Tanveer Khan
Assistant Professor
EE Department, SBASSE, LUMS
Email: wasif.tanveer@lums.edu.pk
Phone: +92- 42 -3560-8471